

Application No. 10/085,499
Amendment dated June 7, 2004
Reply to Office Action of March 18, 2004

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REMARKS/ARGUMENTS

I. Status of the Application

Claims 21-39 are now pending in this application with the cancellation of claims 1-20 and the addition of new claims 21-39. In the March 18, 2004 Office Action, the Examiner:

- A. Rejected claims 1-3 and 15-16 under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 4,907,120 to Kaczmarek et al. (Kaczmarek);
- B. Rejected claims 4-5 and 17 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent 4,907,120 to Kaczmarek in view of U.S. Patent 5,416,663 to Atkins;
- C. Rejected claims 6-10, 13-14 and 18-20 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent 4,907,120 to Kaczmarek in view of U.S. Patent 4,845,580 to Kitchens; and
- D. Rejected claims 11-12 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent 4,907,120 to Kaczmarek in view of U.S. Patent 4,845,580 to Kitchens, and further in view of U.S. Patent 5,416,663 to Atkins.

II. The Prior Art Rejections of Claims 1-20 Are Moot and Should be Withdrawn

Claims 1-20 have been canceled. Applicants respectfully submit that all of the rejections to claims 1-20 are thus rendered moot and should be withdrawn. Withdrawal of the rejections to claims 1-20 is therefore respectfully requested.

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III. New Claims 21-39 Are Allowable Over Kaczmarek, Kitchens and Atkins

Applicants respectfully submit that new claims 21-39 are allowable over Kaczmarek, Kitchens and Atkins either alone and/or in various combinations thereof. Particularly, Applicants respectfully submit the following in support thereof.

A. 1. Kaczmarek

Kaczmarek is directed to a line protector for a communications circuit. Kaczmarek utilizes a three electrode gas tube having end electrodes connected between the tip line and the ring line of a telephone network, and a middle electrode connected to ground. A decoupling device (i.e. a positive temperature coefficient or PTC resistor) is utilized in both the ring and tip lines after the three electrode gas tube. An over-voltage arrestor in the form of two diodes is connected between the protector's ground terminal and the equipment terminals after the decoupling devices. The diodes have a lower voltage rating than the gas tube.

2. Kitchens

Kitchens is directed to an A.C. and D.C. spike eliminating bandpass filter for the protection of home controls and electronics, telecommunications, commercial and industrial controls and the computer field, and others. The spike elimination bandpass filter utilizes two gas tubes and/or semiconductor voltage limiting devices before bandpass filter circuitry. The bandpass filter circuitry consists of two capacitors each coupled to ground, and an inductor in series with the line.

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3. Atkins

Atkins is directed to an arrangement for protecting telecommunications equipment from voltage transients. The Atkins protection arrangement includes two gas discharge tubes (GDTs) or spark gaps connected between balanced lines, a PTC resistor in series with each balanced line after the two GDTs, and a voltage clamp or foldback device (diodes) with associated LC filters.

B. The Claims

1. Claim 21

Applicants' new independent claim 21 recites:

A telephony protection device comprising:

a first stage having a first first-stage input connectable to a tip line of a telephony network, a second first-stage input connectable to a ring line of the telephony network, a first input resistance in series with said first first-stage input and defining a first first-stage output for the tip line, a second input resistance in series with said second first-stage input and defining a second first-stage output for the ring line, a primary spark gap connected between said first first-stage output and said second first-stage output, and first and second secondary spark gaps connected in parallel with said primary spark gap; and

a second stage having a first second-stage input connected to said first first-stage output, a second second-stage input connected to said second first-stage output, a first filter connected between said first second-stage input and a first second-stage output connectable to a telephony device for attenuating a transient voltage developed on the tip line by said primary spark gap, and a second filter connected between said second second-stage input and a second second-stage output connectable to the telephony device for attenuating a transient voltage developed on the ring line by said primary spark gap.

None of the cited references (i.e. Kaczmarek, Kitchens, Atkins) anticipates independent claim 21. It is well settled law that for a reference to anticipate, each and every

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limitation of the claim must be taught in a single reference. Independent claim 21 is directed to a telephony protection device requiring, among other limitations, a first input resistance in series with a first first-stage input, defining a first first-stage output for the tip line, a second input resistance in series with the second first-stage input and defining a second first-stage output for the ring line, a primary spark gap connected between the first first-stage output and the second first-stage output, and first and second secondary spark gaps connected in parallel with the primary spark gap.

Clearly, neither Kaczmarek, Kitchens or Atkins teaches series input resistances for the tip and ring line, a primary spark gap connected in parallel with the tip and ring line and after the series input resistances, or first and second secondary spark gaps connected in parallel with the primary spark gap in addition to other limitations.

As such, independent claim 21 cannot be anticipated by Kaczmarek, Kitchens or Atkins, since none of Kaczmarek, Kitchens or Atkins teaches each and every limitation of independent claim 21.

Moreover, no combination of Kaczmarek, Kitchens and Atkins renders independent claim 21 obvious. Particularly, in addition to other limitations, no combination of Kaczmarek, Kitchens and Atkins teaches or suggests a telephony protection device using input resistance, a primary spark gap positioned after the input resistance and connected in parallel with the ring and tip line, and first and second secondary spark gaps.

As such, independent claim 21 is not obvious over any combination of Kaczmarek, Kitchens or Atkins.

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2. Claims 22-26

Each of claims 22-26 includes independent claim 21 as a base claim. The reasoning set forth above with regard to the patentability of independent claim 21 is thus applicable to the patentability of claims 22-26, and is therefore incorporated herein by reference. As a result, each of claims 22-26 are allowable over Kaczmarek, Kitchens and Atkins and any combination thereof for at least the reasons hereinbefore discussed with regard to independent claim 21.

Further, each of claims 22-26 includes further limitations that are not taught or suggested in any combination of Kaczmarek, Kitchens or Atkins.

3. Claim 27

Applicants' new independent claim 27 recites:

A telephony protection device comprising:

a first stage having a first first-stage input connectable to a tip line of a telephony network, a second first-stage input connectable to a ring line of the telephony network, a first current limiter in series between said first first-stage input and a first first-stage output for the tip line, a second current limiter in series between said second first-stage input and a second first-stage output for the ring line, a primary spark gap connected between said first first-stage output and said second first-stage output, and secondary spark gap circuitry connected in parallel with said primary spark gap; and

a second stage having a first second-stage input connected to said first first-stage output, a second second-stage input connected to said second first-stage output, first transient voltage filter circuitry connected between said first second-stage input and a first second-stage output connectable to a telephony device, and second transient voltage filter circuitry connected between said second second-stage input and a second second-stage output connectable to the telephony device.

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None of the cited references (i.e. Kaczmarek, Kitchens, Atkins) anticipates independent claim 27. It is well settled law that for a reference to anticipate, each and every limitation of the claim must be taught in a single reference. Independent claim 27 is directed to a telephony protections device requiring, among other limitations, a first current limiter in series with a first first-stage input, defining a first first-stage output for the tip line, a second current limiter in series with the second first-stage input and defining a second first-stage output for the ring line, a primary spark gap connected between the first first-stage output and the second first-stage output, and secondary spark gap circuitry connected in parallel with the primary spark gap.

Clearly, neither Kaczmarek, Kitchens or Atkins teaches series current limiters for the tip and ring line, a primary spark gap connected in parallel with the tip and ring line and after the series current limiters, or secondary spark gap circuitry connected in parallel with the primary spark gap.

As such, independent claim 27 cannot be anticipated by Kaczmarek, Kitchens or Atkins, since none of Kaczmarek, Kitchens or Atkins teaches each and every limitation of independent claim 27.

Moreover, no combination of Kaczmarek, Kitchens and Atkins renders independent claim 27 obvious. Particularly, in addition to other limitations, no combination of Kaczmarek, Kitchens and Atkins teaches or suggests a telephony protection device using input current limiters, a primary spark gap positioned after the current limiters and connected in parallel with the ring and tip line, and secondary spark gap circuitry.

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As such, independent claim 27 is not obvious over any combination of Kaczmarek, Kitchens or Atkins.

4. Claims 28-33

Each of claims 28-33 includes independent claim 27 as a base claim. The reasoning set forth above with regard to the patentability of independent claim 27 is thus applicable to the patentability of claims 28-33, and is therefore incorporated herein by reference. As a result, each of claims 28-33 are allowable over Kaczmarek, Kitchens and Atkins and any combination thereof for at least the reasons hereinbefore discussed with regard to independent claim 27.

Further, each of claims 28-33 includes further limitations that are not taught or suggested in any combination of Kaczmarek, Kitchens or Atkins.

5. Claim 34

Applicants' new independent claim 34 recites:

A telephony protection device comprising:

- a tip line input;
- a ring line input;
- a tip line resistor having a first tip line resistor end connected to said tip line input;
- a ring line resistor having a first ring line resistor end connected to said ring line input;
- a primary spark gap connected between a second tip line resistor end of said tip line resistor and a second ring line resistor end of said ring line resistor;
- first and second secondary spark gaps disposed in series with respect to each other and in parallel with respect to said primary spark gap;
- a tip line filter adapted to attenuate voltage transients developed on the tip line by said primary spark gap and/or said first and second secondary spark gaps, said tip line filter

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connected between said second tip line resistor end and a tip line output that is connectable to a telephony device; and

a ring line filter adapted to attenuate voltage transients developed on the ring line by said primary spark gap and/or said first and second secondary spark gaps, said ring line filter connected between said second ring line resistor end and a ring line output that is connectable to the telephony device.

None of the cited references (i.e. Kaczmarek, Kitchens, Atkins) anticipates independent claim 34. It is well settled law that for a reference to anticipate, each and every limitation of the claim must be taught in a single reference. Independent claim 34 is directed to a telephony protection device requiring, among other limitations, a tip line resistor having a first tip line resistor end connected to the tip line input, a ring line resistor having a first ring line resistor end connected to the ring line input, a primary spark gap connected between a second tip line resistor end of the tip line resistor and a second ring line resistor end of the ring line resistor, and first and second secondary spark gaps disposed in series with respect to each other and in parallel with respect to the primary spark gap.

Clearly, neither Kaczmarek, Kitchens or Atkins teaches these limitations.

As such, independent claim 34 cannot be anticipated by Kaczmarek, Kitchens or Atkins, since, as shown above, none of Kaczmarek, Kitchens or Atkins teaches each and every limitation of independent claim 34.

Moreover, no combination of Kaczmarek, Kitchens and Atkins renders independent claim 34 obvious. Particularly, in addition to other limitations, no combination of Kaczmarek, Kitchens and Atkins teaches or suggests a telephony protection device using a tip line resistor having a first tip line resistor end connected to the tip line input, a ring line resistor having a first ring line resistor end connected to the ring line input, a primary spark

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gap connected between a second tip line resistor end of the tip line resistor and a second ring line resistor end of the ring line resistor, and first and second secondary spark gaps disposed in series with respect to each other and in parallel with respect to the primary spark gap.

As such, independent claim 34 is not obvious over any combination of Kaczmarek, Kitchens or Atkins.

6. Claims 35-39

Each of claims 35-39 includes independent claim 34 as a base claim. The reasoning set forth above with regard to the patentability of independent claim 34 is thus applicable to the patentability of claims 35-39, and is therefore incorporated herein by reference. As a result, each of claims 35-39 are allowable over Kaczmarek, Kitchens and Atkins and any combination thereof for at least the reasons hereinbefore discussed with regard to independent claim 34.

Further, each of claims 35-39 includes further limitations that are not taught or suggested in any combination of Kaczmarek, Kitchens or Atkins.

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IV. Conclusion

It is respectfully submitted that all claims are in condition for allowance. Accordingly, Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully Submitted,



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